

REMARKS

Claims 1-3, 5, 6, 8-12, 14, 15, 17 and 18 are pending in this application. Claims 6 and 15 are canceled without prejudice or disclaimer, and claims 1 and 10 are amended herein. Upon entry of this amendment, claims 1-3, 5, 8-12, 14, 17 and 18 will be pending. Entry of this amendment and reconsideration of the rejections are respectfully requested.

No new matter has been introduced by this Amendment. Support for the amendments to the claims is discussed below.

Claims 1-3, 5, 6, 8-12, 14, 15, 17 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tomioka (U.S. Pat. No. 5,079,030) in view of Carpenter (U.S. Pat. No. 5,320,673) and Takashi et al. (JP Pub. No. 2001-149857, machine translation of the disclosure is provided) and Noritake et al. (JP 2003-117481, machine translation of the disclosure is provided). (Office action paragraph no. 1)

Reconsideration of the rejection is respectfully requested in view of the amendments to the claims.

Claims 1 and 10 have been amended to recite that in step (1), an aqueous luster thermosetting base coating composition (A) is applied to a substrate in two to five stages, in such a manner that the thickness of the base coating composition (A) applied in **each stage** becomes 0.3 to 5 μm when cured in step (1). Support for this amendment may be found, for example, in Examples 1 and 2 of the specification.

In addition, claims 1 and 10 have been amended in step (3) to incorporate the limitations of claims 6 and 15, respectively: “in such a manner that the thickness of the aqueous luster thermosetting base coating composition (C) applied in each stage is 0.3 to 5 μm when cured.”

Regarding base claims 1 and 10

Due to the above constituent features, the present invention provides a highly dense texture and high flip-flop property, which are remarkable effects achieved by the present invention. Particularly important is the feature in steps (1) and (3) of the method of forming a luster coating film comprising the steps of (1) applying an aqueous luster thermosetting base coating composition; (2) applying a thermosetting clear coating composition; (3) applying an aqueous luster thermosetting base coating composition; (4) applying a thermosetting clear coating composition; and (5) heating the four-layer coating. More specifically, the important feature is that in steps (1) and (3), an aqueous luster thermosetting base coating composition is applied in two to five stages in such a manner that the thickness of the base coating composition applied in **each stage** becomes **0.3 to 5 μm** when cured; in other words, the feature in which the **thickness** of the aqueous luster thermosetting base coating composition applied in each stage is **reduced**, and a base coating film consisting of such thin coating layers successively superposed is formed, thereby providing a highly dense texture and high flip-flop property.

In the rejection, the Examiner states that:

“Tomioka teaches a method of forming a luster coating film (see abstract) comprising the steps of:

(1) applying an aqueous luster base coating composition to a substrate in two to five stages, such that the thickness of the base coating applied in each of the second and subsequent stages is between 0.3 to 5 μm when cured ..." (page 3, lines 14 to 18, of the Office Action);

"Tomioka however fails to explicitly teach the base coatings and clear coatings being thermosetting coatings ..." (page 4, lines 9 to 10, of the Office Action);

"Carpenter teaches that both these coatings may be thermosetting compositions ..." (page 4, lines 17 to 18, of the Office Action);

"Takashi teaches forming a luster coating by forming a first metallic coating (the compositions similar to that of Carpenter, see 0008 and 0014) ..." (page 5, lines 3 to 4, of the Office Action); and

"... it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tomioka's method of forming a luster coating film by ... utilizing the compositions and an additional clear coat layer as disclosed by Carpenter to obtain a four or five-layer coating" (page 5, lines 13 to 17, of the Office Action).

(1) However, the invention of Tomioka, which is the main cited reference, is completely different from the present invention in the problem to be solved by the invention and in the means for solving the problem.

More specifically, Tomioka merely states in column 1, lines 33 to 47 that **increasing the striking velocity** of the paint particles of a water base metallic paint can suppress darkening.

Tomioka nowhere discloses that to obtain a highly dense texture and high flip-flop property, the **thickness** of the aqueous luster thermosetting base coating composition applied in each stage **should be low**, and a base coating film consisting of such thin coating layers successively superposed is formed.

(2) Tomioka merely states in column 1, lines 13 to 15, that: “because an air spray gun has a **poor paint transfer efficiency**, about 25 to 30%, the thickness of the coat attained in one spraying is around 4 microns” (emphasis added).

Tomioka further states in column 1, lines 19 to 21 that “[t]aken with the poor paint transfer efficiency, the plurality air spray gun spraying with water base metallic paint is productivity poor.”

Tomioka thus teaches that it is **preferable** to form a **thick** coating film by a single application of the coating composition, from the viewpoint of productivity.

None of Carpenter, Takashi, and Noritake et al. discloses that **thin** coatings **each having a thickness of 0.3 to 5 μm** are successively formed and superposed in the second and subsequent stages.

On the contrary, Examples 1 and 2 of Takashi et al., and Examples 1 and 2 and comparative Examples 1 and 2 of Noritake teach that a coating layer formed by a single application of a metallic thermosetting coating composition by air-spraying may have a thickness of 8 μm or more, which is much greater than the 5 μm maximum of the present claims.

Therefore, Applicant submits that a person skilled in the art would be motivated from Tomioka to **increase** the thickness of the aqueous luster thermosetting base coating composition of Carpenter, Takashi, or Noritake et al. in order to increase productivity. The person skilled in the art would **not** be motivated to increase the number of coating stages such that thin aqueous luster thermosetting base coating layers each having a thickness of not more than 5 μm are successively formed and superposed.

The present invention is directed to a method comprising steps (1) and (3) in which an aqueous luster thermosetting base coating composition is applied in two to five stages in such a

manner that the thickness of the base coating composition applied in each stage becomes 0.3 to 5 μm when cured.

(3) Further, Applicants have amended claims 1 and 10 so that in steps (1) and (3), an aqueous luster thermosetting base coating composition is applied in each of the two to five stages, i.e., **even in the first stage**, in such a manner that the thickness of the base coating composition applied becomes 0.3 to 5 μm when cured.

In contrast, Fig. 5 of Tomioka merely shows a coating film comprising a first coating layer (4a) having a thickness of 8 μm . As mentioned above, Tomioka teaches that it is **preferable** to form a **thick** coating layer by a single application of the coating composition, from the viewpoint of productivity. Accordingly, a person skilled in the art may consider increasing the thickness of the first coating layer (4a) to more than 8 μm , from the teachings of Tomioka, but would be very unlikely to consider reducing the thickness of the coating layer below 8 μm .

Claims 1 and 10 of the present application recite methods wherein the thickness of the base coating composition applied in the first stage becomes 0.3 to 5 μm when cured.

Claims 2, 3, 5, and 8 are method claims dependent from claim 1, and have all of the limitations of claim 1. Similarly, claims 11, 12, 14 and 17 are method claims dependent from claim 10, and have all of the limitations of claim 10.

The inventions of claims 9 and 18 are directed to an automotive body or part thereof having a luster coating film formed by the methods of claims 1 and 10, respectively. It is clear that the structure of the resulting product will be determined by method of making it, and in particular, the thickness of the coating compositions in each stage of steps (1) and (3) of claims 1 and 10. Therefore, the structures of claims 9 and 18 are not suggested by the cited references.

U.S. Patent Application Serial No. **10/576,193**

Response filed August 11, 2009

Reply to OA dated April 14, 2009

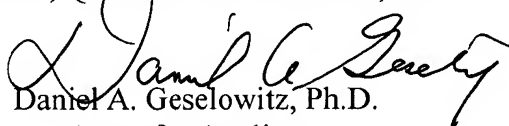
Accordingly, Claims 1-3, 5, 6, 8-12, 14, 15, 17 and 18 are not obvious over Tomioka (U.S. Pat. No. 5,079,030), Carpenter (U.S. Pat. No. 5,320,673), Takashi et al. (JP Pub. No. 2001-149857) and Noritake et al. (JP 2003-117481), taken separately or in combination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Petition for Extension of Time